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| EXAMINER |
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ZIMMERMANN, JOHN P

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| ART UNIT | PAPER NUMBER |
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2861

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08/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,511

Applicant(s)

KUWAHARA ET AL.

Examiner

John P. Zimmermann

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-17 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-7, drawn to a liquid discharge apparatus, which deflects the discharge direction of a liquid discharged from a nozzle in a direction of sections.

Group II, claim(s) 8, drawn to a process or a liquid discharge method, which determines the amount of liquid discharge deflection in accordance with the result of detection.

Group III, claim(s) 9-14, drawn to a liquid discharge apparatus which deflects the discharge direction of a liquid discharged from a nozzle in a plurality of directions and incorporates a distance detection means.

Group IV, claim(s) 15, drawn to a liquid discharge apparatus, which deflects the discharge direction of a liquid discharged from a nozzle in a plurality of directions and incorporates a distance information acquisition means.

Group V, claim(s) 16, drawn to a process or a liquid discharge method, which determines the amount of liquid discharge deflection in accordance with a predefined discharge deflection amount combined with a distance determining method including emitting a material wave and receiving the reflected wave.

Group VI, claim(s) 17, drawn to a process or a liquid discharge method, which determines the amount of liquid discharge deflection in accordance with a predefined discharge deflection amount combined with a distance determining method based on the relative movement of the head and the target.

2. The inventions listed as Groups I, II, III, IV, V, & VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or

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corresponding special technical features for the following reasons: The groups listed above are not within the permitted combination of different categories of inventions. Currently there are three apparatuses, and three processes. As set forth in the PCT/JP03/13316 form, there is no special technical feature that defines a contribution over the prior art (JP2002-240287 A, JP2000-185403 A, JP11-048468 A, JP05-238021 A, JP2000-127553 A, JP08-197738 A, JP07-081065 A, JP2000-094784 A, & JP08-207322 A).

3. Upon election of invention I, II, III, IV, V, or VI, the applicant is further required to elect one of the following disclosed species. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- A. The embodiment of Figures 7-14.
- B. The embodiment of Figure 15.

4. Upon election of invention I, the applicant is further required to elect one of the following disclosed species. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

- (1) The liquid discharge apparatus, which performs its function based on sensor inputs – Corresponding to Claim 3.
- (2) The liquid discharge apparatus, which performs its function based on received information – Corresponding to Claim 4.

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5. Upon election of invention III, the applicant is further required to elect one of the following disclosed species. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

- (1) The liquid discharge apparatus, in which the distance is detected by emitting pulsed light – Corresponding to Claim 10.
- (2) The liquid discharge apparatus, in which the distance is detected by emitting an ultrasonic wave – Corresponding to Claim 11.
- (3) The liquid discharge apparatus, in which the distance is detected by a plurality of detection means including a first and a second distant detection means – Corresponding to Claim 12.

6. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement (e.g., I, A and (1)), and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered *nonresponsive* unless accompanied by an election.

Upon the allowance of a generic claim (Claim 1 or 9), applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

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7. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: As set forth in the PCT/JP03/13316 form, there is no special technical feature that defines a contribution over the prior art (JP2002-240287 A, JP2000-185403 A, JP11-048468 A, JP05-238021 A, JP2000-127553 A, JP08-197738 A, JP07-081065 A, JP2000-094784 A, & JP08-207322 A).

8. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is 571-270-3049.

The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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MATTHEW LUU
SUPERVISORY PATENT EXAMINER